SAKHAROV V. I.

ROMANSKAYA, S.V.;  SAKHAROV, V.I.

Latitude variation of Pulkovo in 1952.  Astron.tsir. no.134:6 F '53.
(MLRA 6:6)
(Pulkovo--Latitude variation)

SAKHAROV, V.I., uchenyy sekretar'.

Tenth All-Union Astrometrical Conference.    Astron.tsir. no.137:18 Ap '53.
(MLRA 6:8)

1. Astrometricheskaya komissiya Astronomicheskogo Soveta Akademii nauk SSSR.
(Astronomy--Congresses)

Sakharov, V. I.

The relation between refractometric and volumetric indexes. V. I. Sakharov. Sbornik Nauch. Trudov Tsen. Sel'skokhoz. Inst. 1954, 70–89. Referat. Zhur., Khim. 1956, Abstr. No. 25124.—The relation between the vol. compressibility and the mixts. of nonelectrolytes established by Pulfrich (Z. physik. Chem. 4, 56(1889)) is confirmed for electrolytes. Refractometry is proposed as a control for volumetric investigations. N. Vasilef

SAKHAROV, V. I.

ROMANSKAYA, S.V. (Pulkovo); KORBUT, I.F. (Pulkovo); SAKHAROV, V.I.(Pul-
     kovo).

Latitude variation of Pulkovo for 1952.5 - 1954.0. Astron.tsir.
no.148:14 Ap '54.                          (MIRA 7:8)
     (Pulkovo--Latitude variation) (Latitude variation--Pul-
                                            kovo)

ROMANSKAYA, S.V.; SAKHAROV, V.I.; KORBUT, I.F.

Preliminary values of the variations of the latitude of
Pulkovo from 1951.8 to 1954.4.  Izv.GAO  20  no.1:130-131
'55.                                    (MIRA 13:5)

(Pulkovo--Latitude variation)

Sakharov, V. I.

USSR/Astronomy - Conferences

Card  1/1       Pub. 124 - 25/39

Authors      :   Sakharov, V. I.

Title        :   Important problems of astrometry

Periodical   :   Vest. AN SSSR  26/2, 119-120, Feb 1956

Abstract     :   Minutes are presented from the 12-th Astronomical Conference held during
                 December 7-9, 1955, at the Main Astronomical Observatory of the Acad. of
                 Sc., USSR where many important problems of astrometry were discussed in
                 connection with the International Geophysics Year.  Names of personalities
                 present at the conference are listed.

Institution :    .....

Submitted   :    .....

ROMANSKAYA, S.V.; KORBUT, I.F.; SAKHAROV, V.I.

Preliminary values of the variation of latitude at Pulkovo
(1954.4 -1956.0). Izv.GAO 20  no.4:143-144  '57.
(MIRA 13:4)
(Pulkovo--Latitude variation)

DEYCH, A.N.; SAKHAROV, V.I.

Fourteenth All-Union Conference on Astrometry. Astron. tsir.
no.194:30-31 Ag  '58.                              (MIRA 12:12)
                    (Astrometry--Congresses)

S/033/60/037/03/026/027
E032/E314

AUTHOR:     Sakharov, V.I.

TITLE:      Fourth Latitude Conference and the Principal Problems in the Study of the Motion of the Earth's Poles  $\sqrt{}$

PERIODICAL:   Astronomicheskiy zhurnal, 1960, Vol 37, Nr 3, pp 595 - 600 (USSR)

ABSTRACT: The conference was sponsored by the Astronomical Council of the Ac.Sc., USSR in accordance with a resolution of the Fourteenth Astrometric Conference of the USSR. It took place between December 9-12, 1959 in Pulkovo. Sixty persons from sixteen different institutions took part. Delegates from Poland, China and the Mongolian People's Republic were present. The aim of the conference was to discuss Soviet work on the motion of the Earth's poles since May, 1952. The conference was opened by the Director of the Pulkovo Observatory, Corresponding Member of the Ac.Sc. USSR A.A. Mikhaylov (Chairman of the Astronomical Council of the Ac.Sc., USSR). Professor I. Witkowski (Poland) and N. Sanzhiyatovyn (Mongolia) reported on the work in this field in their respective countries.

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S/033/60/037/03/026/027
E032/E314

Fourth Latitude Conference and the Principal Problems in the Study
of the Motion of the Earth's Poles

Papers were ready by V.I. Sakharov and I.F. Korbut
(Main Astronomical Observatory of the Ac.Sc., USSR),
A.M. Kalmykov ( Kitab Latitude Station), G.I. Tolvkov,
O.M. Zhukova, V.V. Nesterov, Yu.I. Prodan (Shternberg
State Astronomical Institute), L.A. Bobrikova (Blago-
veshchensk Latitude Station), A.I. Nefed'yeva (AOE),
K.S. Mansurova (Irkutsk University) and V.N. Sel'vinsьiy
(Blagoveshchensk).
The conference passed a resolution approving the new zenith
telescopes.  It is now possible to determine the latitude
using two or more instruments at a given station.  This
is being done at Pulkovo and Kitab.  In addition, the
Pulkovo Observatory has acquired a photographic zenith
tube (the first in the USSR) having  d = 250 mm,
f = 4 m.  This instrument was manufactured at the Leningrad
factory at the request of A.A. Mikhaylov and was brought
into operation at the Main Astronomical Observatory of the
Ac.Sc. USSR by Kh.I. Potter and V.A. Naumov.
The first results obtained with this tube were reported by
Card 2/6   K.I. Potter and N.M. Bakhrakh.

S/033/60/037/03/026/027
E032/E314

Fourth Latitude Conference and the Principal Problems in the Study
of the Motion of the Earth's Poles

Observations carried out at Pulkovo with the aid of a
prism astrolabe were reported by A. Danzhon.
D.D. Polozhentsev and V.I. Sakharov (GAO AN SSSR) spoke
on the mechanisation of the processing of latitude
observations.
Other papers concerned with this problem were read by
S.K. Kulagin (Gor'kovskaya Shirotnaya stantsiya -
Gor'kiy Latitude Station), A.I. Kalachev (NIRFI - Gor'kiy),
V.A. Zverev and Engineer S.F. Orlov.
The work carried out in this field at the Main Astro-
nomical Observatory of the Ac.Sc., USSR was reported by
Ye.I. Kreynin and D.D. Polozhentsev and by N.M. Terent'yev
(Vychislitel'nyy tsentr AN SSSR (Computer Centre of the
A.Sc., USSR) and LSNKh).
The following papers concerned with the motion of the
Earth's poles were read:
N.I. Panchenko (Pulkovo) : "Methods of calculation of the
coordinates of the Earth's poles by the International
Card 3/6  Latitude Service"

S/033/60/037/03/026/027
E032/E314

Fourth Latitude Conference and the Principal Problems in the Study of the Motion of the Earth's Poles

Ye.P. Fedorov "On the reorganisation of the studies of fluctuations in latitude and the motion of the Earth's poles".

N.I. Panchenko spoke on the methods of computation of the coordinates of the Earth's poles at the Central Bureau of the MSSh (International Latitude Service).
Ye.P. Fedorov reviewed the present state of this branch of science and suggested various possible reorganisations.
V.P. Linnik (GAO AN SSSR) described a new instrument for the determination of latitude, namely, a photographic zenith collimator. Observations with this instrument will be practically free of instrumental errors.
A.A. Korsun' (Poltavskaya Gravimetricheskaya observatoriya AN USSR -- Poltava Gravimetric Observatory of the Ac.Sc., Ukrainian SSR) read a paper concerned with instrumental errors.
Other papers on instrumental errors were read by S.M. Romanskaya (GAO AN SSSR) and L.A. Solov'yeva (VNIIM - Leningrad).

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S/033/60/037/03/026/027
E032/E314

Fourth Latitude Conference and the Principal Problems in the Study of the Motion of the Earth's Poles

S.G. Kulagin and L.D. Kovbasyuk (Gor'kiy Latitude Station) "Observations of Bright Stars and Bright Pairs at Gor'kiy during the period 1958.6-1959.6".

V.V. Nesterov (GAISh) "On the Processing of Observational Material Obtained on the Basis of the Expanded Programme".

P.M. Rabinskiy (AOE) "On the Most Effective Methods of Calibration of Micrometers".

O.B. Staroverov and V.M. Nesterov (GAISh) "On the Prediction of the Polar Coordinates".

N.A. Chudovicheva (AOE) "Graphical Method for Setting-up of Programmes for the Determination of Latitudes According to the Talcott Method".

V.S. Shukhorov (Kitab Latitude Station) "Calibration of the Micrometer of the ZTL-180 zenith telescope".

P.N. Kropotkin (Geological Institute of the Ac.Sc., USSR) "Various Types of Horizontal Motions of the Earth's Crust According to Geological and Geophysical Data".

N.K. Migalem (L'vov Polytechnical Institut) "On the Secular Motion of the Poles of Rotation of a Deformed Earth".
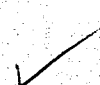
Card5/6

Fourth Latitude Conference and the Principal Problems in the Study of the Motion of the Earth's Poles

S/033/60/037/03/026/027
E032/E314

The conference recommended the creation of a new commission attached to the Astrosovete AN SSSR (Astrophysical Council of the Ac.Sc., USSR) which would be concerned with the study of the rotational motion of the Earth and would be based on the latitude, time and lunar sub-commissions. It was decided to publish the transactions of the present conference in the near future. The next conference will take place during August-September, 1961, at Kitab.

SUBMITTED:   March 21, 1960

Card 6/6

S/035/61/000/011/007/028
A001/A101

AUTHORS:        Sakharov, V.I., Korbut, I.F.

TITLE:          Determination of fluctuations of Pulkovo latitude from parallel
                observations with two zenith telescopes

PERIODICAL:     Referativnyy zhurnal. Astronomiya i Geodeziya, no. 11, 1961, 13-14,
                abstract 11A118 (V sb. "Predvarit. rezul'taty issled. kolebaniy
                shirot i dvizheniya polyusov Zemli", Moscow, AN SSSR, 1960, 34-42,
                Engl. summary)

TEXT:           Since July 1, 1957, latitude observations at Pulkovo have been con-
ducted with two zenith telescopes: 3ТФ-135 (ZTF-135) (D=135 mm, F=1,760 mm)
and   3ТЛ-180 (ZTL-180) (D=180 mm, F=2,360 mm) manufactured in Leningrad. Ob-
servations with ZTF-135 are being conducted according to an extended program
(from dawn to dawn); those with ZTL-180 according to the two-group program. A
comparison of the observed latitudes shows that systematic and random errors of
both instruments are small. A comparison with latitudes calculated from the data
of the International Latitude Service does not practically reveal the systematic
z-term with annual period for both instruments. The mean-square error of one

Card 1/2

Determination of fluctuations ...

S/035/61/000/011/007/028
A001/A101

observation (from data of IGY) turned out to be $\pm 0\overset{"}{.}14$ for ZTL-180 and $\pm 0\overset{"}{.}18$ for ZTF-135. Hence the conclusion can be drawn that the new domestic zenith telescope ZTL-180 is not inferior in its quality to ZTF-135 which is one of the most precise instruments of this type in the whole world.

Kh. Potter

[Abstracter's note: Complete translation]

Card 2/2

SAKHAROV, V I

2 b

PHASE I BOOK EXPLOITATION        SOV/5742

Akademiya nauk SSSR. Mezhduvedomstvennyy komitet po provedeniyu Mezhdunarodnogo
geofizicheskogo goda. VIII razdel programmy MGG:  Shiroty i dolgoty.

Predvaritel'nyye rezul'taty issledovaniy kolebaniy shirot i dvizheniya polyusov
zemli; sbornik statey (Preliminary Data of Latitude Variations and Migrations
of the Earth's Poles; Collected Articles.  No. 1)  Moscov, Izd-vo AN SSSR,
1960, 97 p.  Errata slip inserted.  1,000 copies printed.

PURPOSE:  This collection of articles is intended for astronomers, geophysicists,
and other scientists concerned with the problem of latitude variations and
the migration of the Earth's poles.

COVERAGE:  Part I of the collection contains preliminary results of latitude
observations from 1957.5 through 1959.0 made at IGY stations in the USSR
network, including new stations in Siberia.  Part II consists of articles
describing new instruments, observational programs and methods, and pro-
cedures of processing the latitude observational data.  With the larger number
of stations and the use of new instruments it is anticipated that the final
results will provide a more comprehensive study of anomalies and instrumental

Card 1/5.

Preliminary Data of Latitude Variations (Cont.)                SOV/5742

errors in latitude observations than has been possible previously. No per-
sonalities are mentioned. English abstracts and references follow each article.

TABLE OF CONTENTS:

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SAKHAROV, V. I.

C

PHASE I BOOK EXPLOITATION         SCV/5721

Vsesoyuznaya astrometricheskaya konferentsiya.

Trudy 14-y Astrometricheskoy konferentsii SSSR, Kiyev, 27-30 maya 1958 g.
(Transactions of the 14th Astrometrical Conference of the USSR, Held in Kiyev
27-30 May 1958) Moscow, Izd-vo AN SSSR, 1960. 440 p. Errata slip inserted.
1000 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Glavnaya astronomicheskaya observatoriya
(Pulkovo).

Resp. Ed.: M. S. Zverev, Corresponding Member, Academy of Sciences USSR; Ed. of
Publishing House: N. K. Zaychik; Tech. Ed.: R. A. Zmarayeva.

PURPOSE: The book is intended for astronomers and astrophysicists, particularly
those interested in astrometrical research.

COVERAGE: This publication presents the Transactions of the 14th Astrometrical
Conference of the USSR, held in Kiyev 27-30 May 1958. It includes 27 reports
and 55 scientific papers presented at the plenary meeting of the Conference

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60

Transactions of the 14th Astrometrical (Cont.)            SOV/5721

and at the special sectional meetings. An appendix contains the resolutions adopted by the Conference, the composition of the committees, the agenda, and the list of participants at the Conference. A brief summary in English is given at the end of each article. References follow individual articles. The Presidium of the Astrometrical Committee (Chairman M. S. Zverev), which supervised the preparation of this publication, expresses thanks to the members of the secretariat: V. M. Vasil'yev, I. G. Kol'chinskiy, A. B. Onegina, and Kh. I. Potter.

TABLE OF CONTENTS:

        REPORTS OF THE ASTROMETRICAL COMMITTEE AND SUBCOMMITTEES
    INFORMATION ON ASTROMETRICAL WORK PRESENTED BY VARIOUS INSTITUTIONS

Card 2/16

Card 10/16

S/035/62/000/008/013/090
A001/A101

AUTHORS:      Polozhentsev, D. D., Sakharov, V. I.

TITLE:        On efficiency of using modern computers for processing and analysis
              of latitude observations

PERIODICAL:   Referativnyy zhurnal, Astronomiya i Geodeziya, no. 8, 1962, 18,
              abstract 8A147 (In collection: "Predvarit. rezul'taty issled. ko-
              lebaniy shirot i dvizheniya polyusov Zemli, no. 2", Moscow, AN SSSR,
              1961, 130 - 131, English summary)

TEXT:         It is intended at Pulkovo to analyze observational data assembled
during IGY (about 14,000 instantaneous latitudes) from two zenith telescopes,
   3TФ -135 (ZTF-135) and   3TЛ -180 (ZTL-180) by using analytical and electronic
computers.

[Abstracter's note: Complete translation]

Card 1/1

SAKHAROV, V.I., inzh.; FRAYNT, T.M., inzh.

Cementless concretes for protecting pavements.  Avt. dor. 28
no.9:2-4  S '65.                                  (MIRA 18:10)

L 14854-66    EWP(j)/EWT(m)     RM

ACC NR: AP6001728    (A)       SOURCE CODE: UR/0020/65/165/004/0813/0816

AUTHORS: Shal'nev, K. K.; Rozanov, N. P.; Pshenitsyn, P. A.;
Inozemtsev, Yu. P.; Sakharov, V. I.

ORG: none

TITLE: Mechanism of cavitation erosion of cement and polymer con-
cretes

SOURCE: AN SSSR. Doklady, v. 165, no. 4, 1965, 813-816

TOPIC TAGS: cavitation, reinforced concrete, erosion, polymer,
plastic strength

ABSTRACT: The authors investigated the effect of various factors,
besides strength, on the resistance to cavitational erosion of cement
and polymer concrete (plastic-reinforced concrete). These factors
were homogeneity of the concrete structure, composition and structure
of the filler rock; cohesion of the binding agent and its adhesion to
the filler. The tests were made in a hydrodynamic tube with area

Card   1/2

L 14854-66

ACC NR:  AP6001728                                                          *O*

24 x 100 mm, at a stream velocity ahead of the sample 20 m/sec, the
cavitation being measured on the rear end of the sample. Gravel con-
crete had the least resistance to cavitation, and stone concrete the
highest, indicating that a large mesh of the filler is harmful from
the point of view of cavitation erosion. In the case of plastic-
based concrete the resistance to erosion was higher by tens and hun-
dreds of times. No connection was established between the strength
of the concrete and its resistance to cavitation erosion, in contra-
diction to earlier reports. It is concluded that the cavitation
erosion damage of concrete has many similar features to damage to
metals, so that the requirements should be identical for all types
of materials. This report was presented by Academician P. Y. Kochina.
Orig. art. has: 2 figures and 3 tables.

SUB CODE: 11        SUBM DATE: 25Mar65/   ORIG REF: 007/   OTH REF: .003

Card   2/2

NAUMOV, Vasiliy Ivanovich; SIDOROV, Nikolay Grigor'yevich; SAKHAROV,
Vladimir Konstantinovich [deceased]; BELETSKIY, G.A., inzh.,
retsenzent; KARATEYEV, V.N., inzh., retsenzent; NAZAROV, D.M.,
inzh., retsenzent; KOCHUROV, N.I., dotsent, kand.tekhn.nauk, red.;
TSVETNIKOV, V.I., dotsent, kand.tekhn.nauk; GOFMAN, Ye.K., red.
izd-va; SOKOLOVA, V.L., tekhn.red.

[Operation, technical maintenance, and repair of automobiles;
reference materials] Ekspluatatsiia, tekhnicheskoe obsluzhivanie
i remont avtomobilei; spravochnye materialy. Izd.3, perer. i dop.
Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit.lit-ry, 1959. 447 p.
                    (Automobiles)                    (MIRA 12:5)

NAUMOV, V.I.; SIDOROV, N.G.; SAKHAROV, V.K.[deceased];
BELETSKIY, G.A., inzh., retsenzent

[Operation, maintenance and repair of motor vehicles; a
handbook] Ekspluatatsiia, tekhnicheskoe obsluzhivanie i
remont avtomobilei; spravochnoe posobie.  Moskva, Mashi-
nostroenie,  1965.  510 p.                 (MIRA 18:8)

SAKHAROV, V.K.

S/796/62/000/003/009/019

AUTHORS: Kramer-Ageyev, Ye. A.; Sakharov, V. K.

TITLE: A scintillation γ-dosimeter.

SOURCE: Moscow. Inzhenerno-fizicheskiy institut. Pribory i metody analiza izlucheniy. no. 3. 1962, 89-98.

TEXT: An attempt is made to overcome the basic defect of high-sensitivity radiometers, namely, the variation of their readings - at a given constant dosage rate - with varying γ-radiation energy. It is intended that dosage rates of the order of 0.8 mcurie/sec be measured with a summary error of not more than 10-20%. The portable sensor portion of the device consists of a photomultiplier and a combined scintillator. A plastic scintillator (p-terphenyl in polystyrene), 40-mm diam, 6 mm high, is employed. Its high H content renders it closer to tissue-equivalent than to air-equivalent. The instrument that measures the energy absorption in the scintillator is calibrated for $Co^{60}$ or Ra γ-radiation and, hence, is greatly energy-dependent, especially at energies below 100 kev, at which the nonlinearity of the conversion effectiveness of organic scintillators is also appreciable. Various attempts to reduce the energy dependence by use of homogeneous mixtures are discussed and criticized; the use of a small pack of KI(Tl) crystal, 2x2x0.25 mm, attached to the outer surface of the plastic scintillator, was tested and is recommended. The sensor can be removed several meters from the measuring console and

Card 1/2

A scintillation γ-dosimeter.                              S/796/62/000/003/009/019

the ИС-10,000 (PS-10,000) instrument. The steel shell of the sensor comprises the
photomultiplier and the combined scintillator. A paper-covered frontal aperture
and two opaqued side windows serve to admit low-energy γ-quanta without excessive
absorption in the shell material. The divider of the ФЭУ-29 (FEU-29) photomulti-
plier is uniform. The photomultiplier is fed from the PS-10,000 instrument. The
photomultiplier anode is connected directly to the cable between the sensor and the
console; at the console end the cable is loaded with a 100-kohm resistance. The
general console circuitry consists of two independent portions, namely, a d.c.
amplifier and a pulse-amplitude transformer. The general circuitry is depicted in
a full-page schematic circuit diagram and is discussed in detail. The character-
istic of the dosimeter, which was calibrated with γ-radiation from a Ra standard
source, was tested in the low-energy range with a strongly filtered X radiation and
correlated against an air-chamber standard. A severe variation occurred only in
the energy range between 30 and 53 kev, with near-constancy ($\pm 5\%$) from 0.053 to
10 mev. The instrument was also tested for isotropicity by exposure to the γ-rays
of a $Co^{60}$ source; an 8% lower reading was obtained with a glancing impingement
than with a normal impingement. The anisotropy may be greater possibly at smaller
γ-ray energies. Load (dosage-rate) tests manifest an upper limit of 5 mcurie/sec
for this dosimeter, with a sensitivity of $1.9 \cdot 10^{10}$ pulses per r. In effect, the in-
strument is a combined roentgenometer and dosimeter. 5 figures, 5 references
(2 Russian-language Soviet, 2 Russian transl. of U.S. compendia, 1 German paper).
Card 2/2                   ASSOCIATION: None given.

ACCESSION NR:  AT4021255

AUTHOR:  Mashkovich, V. P., Sakharov, V. K.

TITLE:  Universal tables for calculation of γ radiation attenuation in thin tin filters

SOURCE:  Voprosy* dozimetrii i zashchity* ot izlucheniy, no. 2, 1963, 88-90

TOPIC TAGS:  universal table, γ rays, β radiation, tin filters

ABSTRACT:  The problem of determining the attenuation of γ radiation after passing through a filter is studied in this paper. The authors have constructed a universal table which should aid in determining the degree of attenuation. Calculations of γ radiation attenuation in a tin filter ($\rho = 7.29$ g/cm$^3$) are conducted. Results of the calculations in the form of the dependence of $1/k$ of 1, 2, 3, 4 and 5 mm are given in the table and figure. Orig. art. has:  1 figure, 1 formula, and 1 table.

Card 1/2

ACCESSION NR: AT4021255

ASSOCIATION: Moskovskiy inzhenerno-fizicheskiy institut (Moscow Physics and Engineering Institute)

SUBMITTED: 00                DATE ACQ: 06Apr64               ENCL: 00

SUB CODE: PH, NS            NO REF SOV: 005               OTHER: 001

Card 2/2

ACCESSION NR: AT4019046                 S/0000/63/000/000/0182/0190

AUTHOR: Mashkovich, V. P.; Sakharov, V. K.; Tsy*pin, S. G.

TITLE: Spatial-energy distribution of neutrons in thick layers of iron

TOPIC TAGS: neutron energy distribution, iron prism, relaxation length, attenuation function, neutron spatial distribution, neutron, reactor shielding, iron shielding, neutron spectrum

ABSTRACT: The spatial and energy distribution of fast and intermediate neutrons in iron was studied because of the importance of iron in reactor shielding and the insufficiency of existing data. A BR-5 reactor was used as a neutron source and the neutron spectrum was determined on $200\mu$ thick photographic film with type K emulsion. The neutron beam was directed onto an iron prism (dimensions $1320 \times 1360 \times 1880$ mm) after passing into a reservoir through a channel 250 mm in diameter. The angular divergence of the beam was 5°. For detection of fast neutrons, the following threshold detectors were used: $Sn^{32}(n,p) P^{32}$, $Mg^{24}(n, p,) Na^{24}$, $Al^{27} (n, \alpha) Na^{24}$, and a $Th^{232}$ fission

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ACCESSION NR: AT4019046

chamber; for intermediate neutrons: a $BF_3$ counter type SNM-3, $Cu^{63}(n, \gamma) Cu^{64}$, and the indicator $Au^{197}(n, \gamma) Au.^{198}$ Detectors were placed at various distances r from the source and at different heights perpendicular to the beam. Counting rates from tin and aluminum detectors and the thorium chamber as a function of height for different distances r were evaluated separately. The spatial distribution as a function of height at fixed r as registered by copper and gold indicators and a boron counter is given in Fig. 1 of the Enclosure. Neutron attenuation for an infinite planar unidirectional neutron source was given by the equation $G_{\infty p}(r)C = \int_{0}^{\infty} G_{DM}(r, h)hdh$ and is shown in Fig. 2 of the

Enclosure as determined by Cu, Au and $BF_3$. Relaxation lengths as measured by different detectors and calculated values of asymptotic cross-sections in the transport approximation for several energy groups are tabulated in the original paper. "The authors are indebted to O. I. Leypunskiy and V. V. Orlov for valuable comments during this work". Orig. art. has: 11 figures, 3 tables and 1 formula.

ASSOCIATION: None

SUBMITTED: 14Aug63          DATE ACQ: 27Feb64          ENCL: 02

SUB CODE: NP               NO REF SOV: 010             OTHER: 004

Card   2/4

ACCESSION NR: AT4019046                                    ENCLOSURE: 01

Fig. 1 ~ Measured neutron
distribution at
various value of
the distance r.

Average values of the counts obtained on
Cu, Au and BF₃ detectors, in relative units.



Card    3/4

height in cm
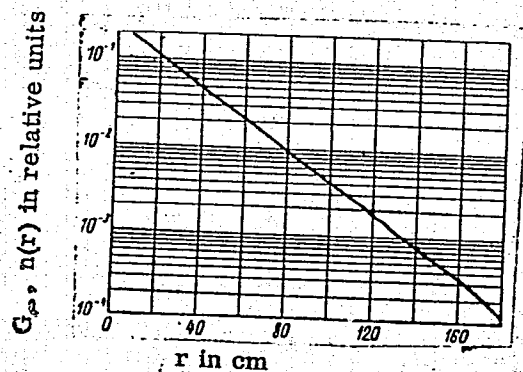
Fig. 2 - Attenuation function of neutrons from an infinite, planar, unidirectional source, measured by Cu, Au and $BF_3$ detectors.

Card 4/4

ACCESSION NR: AP4042264                    S/0089/64/017/001/0060/0063

AUTHORS: Daruga, V. K.; Lazutkin, I. I.; Nikolayev, A. N.; Sakharov,
V. K.; Sinitsy*n, B. I. Tsy*pin, S. G.

TITLE: Study of the passage of neutrons through carbon and through
a carbon-iron mixture

SOURCE: Atomnaya energiya, v. 17, no. 1, 1964, 60-63

TOPIC TAGS: reactor material, neutron cross section, neutron in-
teraction, neutron spectrum, fast neutron spectrometry

ABSTRACT: In view of the fact that theoretical calculations are
made difficult by lack of detailed information on the cross sections
for the interaction between neutrons and matter, the authors consider
the spatial distribution of neutrons of different energies passing
through layers of carbon from 10 to 130--150 cm thick. The passage
of neutrons through an iron-carbon mixture containing 37.4% of iron

Card    1/5

ACCESSION NR: AP4042264

by volume was also investigated. The B-2 channel of the BR-5 reactor served as the neutron source. The measurements were made under conditions of semi-infinite geometry, 'and the neutrons with $E > 3$ MeV leaving the channel had the same energy distribution as the fission spectrum, becoming softer at low energies. Sulfur and aluminum threshold indicators, thorium fission chambers, and proportional recoil-proton counters were used as fast-neutron detectors. Thermal and epithermal neutrons were detected with copper and indium resonant indicators. To permit comparison with the available results, the experimental data were converted into neutron attenuation functions of an infinite flat isotropic source. The experimental data show that the neutron relaxation length in iron increases for low energies, while in carbon it remains practically constant over a wide range of energies. Consequently the addition of iron to the carbon decreases the relaxation length of the neutrons in the upper groups $(E > 2$ MeV), while the addition of carbon to iron decreases the relaxation length of the neutrons in the 1--1.5 MeV. By choosing

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ACCESSION NR: AP4042264

the suitable composition of the mixture it is possible to make the neutron relaxation lengths practically equal over a wide energy interval. The use of such a mixture, which is relatively cheap and heat resistant, is quite promising. "The authors are grateful to M. Ya. Kulakovskiy for participating in the discussion of the ex-perimental results and to A. A. Goncharenko for help with the work." Orig. art. has: 3 figures, 2 formulas, and 2 tables.

ASSOCIATION: None

SUBMITTED: 18Dec63          DATE ACQ:                        ENC: 02

SUB CODE: NP               NR REF SOV: 009                  OTHER: 003

Card 3/5

ACCESSION NR: AP4042264

ENCLOSURE: 01
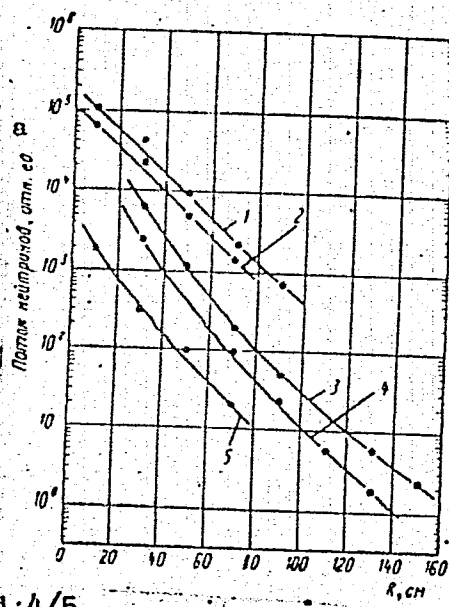


Neutron attenuation function in carbon fo:
different energy groups. The detectors
used were:

1 - $Al^{27}$
2 - $S^{32}$
3 - $Cu^{63}$
4 - proportional counter
5 - $Th^{232}$

a - neutron flux, rel. units

Card · 4/5

ACCESSION NR: AP4042264 ENCLOSURE: 02
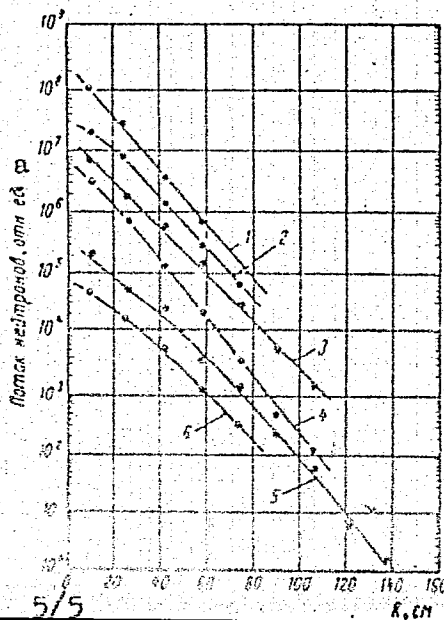


Neutron attenuation function in iron-carbon mixture for different energy groups. The detectors used were:

1 - $Si^{32}$

2 - $Al^{27}$

3 - $Th^{202}$

4 - recoil proton counter

5 - $In^{115}$

6 - $Cu^{63}$

a - neutron flux, rel. units

Card 5/5

ACCESSION NR: AP4042265                    S/0089/64/017/001/0063/0065

AUTHOR: Daruga, V. K.; Lazutkin, I. I.; Nikolayev, A. N.; Pinkhasik, D. M.; Sakharov, V. K.; Sinitsy*n, B. I.; Tsy*pin, S. G.

TITLE: Investigation of spatial energy distribution of BR-5 reactor neutrons in iron-ore medium

SCURCE: Atomnaya energiya, v. 17, no. 1, 1964, 63-65

TAGS: reactor shielding, nuclear radiation, iron ore reactor shielding, BR 5 reactor, neutron energy distribution

ABSTRACT: The possibility of using an iron-ore medium as a relatively inexpensive form of nuclear-reactor shielding has been investigated. Ore with a high content of iron and oxygen was used in the experiment. Standard enriched iron ore of the following composition, suitable for construction and to withstand high temperatures without significant changes in its properties, was used as base material: 60% Fe; 30% $O_2$; 8—10% Si, Mg, Ca, Al; 1% Mn, Pb, Cu, Ti, C. Some binding admixtures were added to the concentrate to improve its constructional properties. A BR-5 fast reactor was used in the investigation. Based on the measurements by all detectors, the curves of
Card 1/2

ACCESSION NR:  AP4042265

spatial-energy distribution of neutrons emitted by a disk-shaped
collimated source were plotted.  The results showed that hydrogenous
iron-ore shielding has rather high attenuating properties for the
whole neutron spectrum of the reactor.  Unfortunately, its water
component is just as unstable at high temperatures as in other
shieldings.  The introduction of more stable additives, such as me-
tal hydrids, serpentines, etc., into the shielding material is re-
commended for better results. Orig. art. has:  3 figures, 2 tables,
and 2 formulas.
ASSOCIATION:  none

SUBMITTED:  07Mar64              ATD PRESS: 3068           ENCL:  00

SUB CODE:  NP                    NO REF SOV: 008           OTHER:  002

Card  2/2

L 1158-66    EWT(m)/ETC/EPF(n)-2/EWG(m)/EWP(t)/EWP(b)/EWA(h)    IJP(c)    JD/WW/JG

ACCESSION NR: AT5023144                          UR/2892/65/000/004/0007/0014

AUTHOR: Kramer-Ageyev, Ye. A.; Mashkovich, V. P.; Sakharov, V. K.

TITLE: Dosage composition of neutron radiation in shielding materials

SOURCE: Moscow. Inzhenerno-fizicheskiy institut. Voprosy dozimetrii i zashchity ot izlucheniy, no. 4, 1965, 7-14

TOPIC TAGS: neutron radiation, fast neutron, radiation dosimetry, neutron shielding, water, carbon, beryllium, concrete, iron

ABSTRACT: The objects of the present work were to calculate the dosage distribution for water, carbon, beryllium, concrete, and iron for the following assumed limiting energies of the intermediate and fast neutron groups: 0. 5; 1. 0; 1. 5 Mev, and compare the results with existing literature data, and evaluate the accuracy of the measuring instruments used. The calculated data (shown in figures and in tabular form) indicate that with a change in the limiting energy of the intermediate and fast groups, the contribution of the neutrons of each of these groups to the total dose can change considerably. The following conclusions are

Card  1/3

L 1158-66
ACCESSION NR: AT5023144

drawn: 1) in the design of neutron radiation shielding, the contribution of the neutrons of all energy groups to the dosage must be taken into account; 2) for different shielding materials, the contribution of different neutron groups is determining; and, 3) a change in the limiting energy of the intermediate and fast neutron groups from 0.5 to 1.5 Mev can considerably affect the distribution of the neutrons over these two groups. The threshold effectiveness, $\mathcal{E}_{th}$, is determined by the formula:

$$\mathcal{E} = \frac{\int_{\mathbf{0}}^{\mathbf{0}} \varepsilon \varphi (E)\, dE}{\int_{\mathbf{0}}^{th} \varphi (E)\, dE} , \qquad (2)$$

where $\mathcal{E}$ is the efficiency of the instrument; $\varphi$ (E) is the spectrum of the instrument; $E_{th}$ is the effective threshold. It is stated that the dosage of neutrons can be estimated for intermediate and fast neutrons in the majority of cases. Orig. art. has: 2 formulas, 3 figures, and 2 tables

Card 2/3

L 1158-66

ACCESSION NR: AT5023144

ASSOCIATION: None

SUBMITTED: 00                    ENCL: 00          SUB CODE: NP

NR REF SOV: 004                  OTHER: 005

Card    3/3 DP

L 6471-66    EWT(m)/EPF(c)/ETC/EPF(n)-2/EWG(m)    WW/DM    UR/0089/65/019/001/0046/0048
ACCESSION NR:    AP5019814                                          539.125.5:539.163.1

AUTHOR: Kramer-Ageyev, Ye. A.; Markov, V. N.; Mashkovich, V. P.; Sakharov, V. K.;
Sakharov, V. M.

TITLE: Neutron distribution in a straight cylindrical channel

SOURCE: Atomnaya energiya, v. 19, no. 1, 1965, 46-48

TOPIC TAGS: neutron distribution, nuclear reactor shielding, spectral distribution,
neutron spectrometry, fast neutron

ABSTRACT:   The authors investigated the energy and spatial distribution of the
neutrons in a straight cylindrical channel 14.4 cm in diameter and 150 cm long,
passing through a water shield.  The neutron source was a disc isotropic Po-$\alpha$-Be
source stimulating point-like Po-$\alpha$-Be source emitting $2 \times 10^7$ neut/sec.  The ex-
perimental setup was such that the source could be moved radially for each fixed
position of the detector, so that the spectrum of the fast neutrons could be de-
termined from a standard formula.  The spectral distribution of the fast neutrons
was measured with a single-crystal neutron spectrometer, and the intermediate
neutrons were counted with a paraffin-imbedded fast-neutron counter.  The results
show no deviations, within the limits of errors, from the spectrum of the Po-$\alpha$-Be

Card 1/2

L 6471-66
ACCESSION NR: AP5019814

source. The spatial distribution of the fast neutrons agrees within 15% with the
calculations based on the beam analysis method. A study of the dependence of the
fast-neutron flux on the source radius showed that with increasing distance from
the source to the detector (z), the source diameter which can be regarded as in-
finite, decreases. The fast and intermediate neutrons exhibit approximately a
dependence on z ($\sim z^3$), with the fraction of the intermediate neutrons becoming
somewhat smaller with increasing z. "The authors thank O. I. Leypunskiy for
valuable advice and a discussion." Orig. art. has: 5 figures and 1 formula.

ASSOCIATION: none

SUBMITTED: 15Jul64            ENCL: 00              SUB CODE: NP

NR REF SOV: 002             OTHER: 006

Card 2/2

L 06978-67   EWT(m)   JR

ACC NR: AP6018353      ( N )    SOURCE CODE: UR/0089/66/020/005/0416/0418

AUTHOR:  Nikolayev, A. N.; Sakharov, V. K.; Sinitsyn, B. I.; Mashkovich, V. P.

ORG:  none

TITLE:  Distribution of fast fission neutrons along straight cylindrical channels in water

SOURCE:  Atomnaya energiya, v. 20, no. 5, 1966, 416-418

TOPIC TAGS:  neutron distribution, fast neutron, neutron absorption, reactor shielding/B-2 reactor test equipment, BR-5 reactor/ nuclear

ABSTRACT:  Inasmuch as earlier experimental and theoretical investigations of the passage of neutrons through slots and channels in shields have been restricted to neutrons from isotropic and cosinusoidal sources, the authors investigate the influence of straight cylindrical channels in water and the passage of fast fission neutrons from unidirectional sources. The experiments were made with installation B-2 of the BR-5 reactor.  The neutron source was the active zone of the reactor. The straight cylindrical channels had diameters 144 and 90 mm. The neutron detectors were sulfur and aluminum threshold indicators, with respect to energy thresholds 3

Card 1/2                      UDC:  539.125.52

L 06978-67

ACC NR: AP6018353                                                    4

and 7 MeV. The distribution of the fast neutrons was determined by the β activity induced in the indicators, using a method described in an earlier paper (in: Voprosy fiziki zashchity reaktorov [Problems in Physics of Reactor Shielding], edited by D. L. Broder et al., Atomizdat, 1963, p. 182). Data are obtained on the attenuation of the flux of fast neutrons along the cylinder axis, from a disc and from an infinite plane unidirectional neutron source, and the influence of the shift of the tube axis relative to the source axis on the attenuation of the neutron radiation was studied. The information obtained can be used to calculate the passage of neutron radiation through steplike channels. The results show that shifting the channel axis relative to the source axis provides a very effective means of attenuating the neutron flux, since a change by five orders of magnitude could be obtained in some geometries. The authors thank A. A. Concharenko, P. I. Kotikov, V. M. Sakharov, and Yu. V. Kharizomenov for help with the experiments and the data reduction. Orig. art. has: 5 figures and 2 formulas.

SUB CODE: 18    SUBM DATE: 03Aug65/    ORIG REF: 004    OTH REF: 004

Card 2/2

KIREYEV, Valentin Aleksandrovich; LUR'YE,G.Ye., redaktor; SAKHAROV,V.M.,
    redaktor; LUR'YE,M.S., tekhnicheskiy redaktor

[Course in physical chemistry] Kurs fizicheskoi khimii. Moskva,
Gos. nauchno-tekhn. izd-vo khimicheskoi lit-ry, 1955. 832 p.
                                              (MIRA 9:3)
    (Chemistry. Physical and theoretical)

PENNEMEN, R.[Penneman, R.A.]; KINEN, T. [Keenan, T.K.]; KOSYAKOV, V.N.
[translator]; YAKOVLEV, G.N., red.;SAKHAROV, V.M., red.;
DOTSENKO, V., tekhn. red.; OROTEYEVA, Yu., tekhn. red.

[Radiochemistry of americium and curium] Radiokhimiia ameri-
tsiia i kiuriia. Pod red. G.N.IAkovleva. Moskva, Izd-vo inostr.
lit-ry, 1961. 96 p.                                (MIRA 15:1)
   (Americium)  (Curium)   (Radiochemistry)

ANVAYER, B.I.; ZHUKHOVITSKIY, A.A.; LITOVTSEVA, I.I.; SAKHAROV, V.M.;
TURKEL'TAUB, N.M.

Relation between the retention volume in gas-liquid
chromatography and the dielectric constant of the stationary
phase. Zhur. anal. khim. 19 no.2:178-183  '64.

(MIRA 17:9)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut yadernoy
geofiziki i geokhimii, Moskva.

SAKHAROV, V.M.

Medicine at the Republic Exhibition of Economic Achievements. Sov.
zdrav. 19 no.1:95-96 '60.                                    (MIRA 13:4)
                    (MOLDAVIA--MEDICINE)

SAKHAROV, V.M.

KALISHEVSKIY, L.L.; KATSNEL'SON, B.D.; KNORRE, G.F.; MIRONOV, B.M.; NADZHAROV,
M.A.; NAKHAPETYAN, Ye.A.; SAKHAROV, V.M.; KHVOSTOV, V.I.; KORIKOVSKIY,
I.K., red. izd-va; VORONIN, K.P., tekhn. red.

[Cyclone furnaces] TSiklonnye topki. Pod obshchei red. G.F. Knorre
i M.A. Nadzharova. Moskva, Gos. energ. izd-vo, 1958. 215 p.
                (Furnaces, Heat treating)                (MIRA 11:7)

SAKHAROV, V.M.

Studying clinker and linings in connection with cyclone furnaces.
[Trudy] MVTU no.94:116-144 '58.                    (MIRA 12:3)
           (Combustion)  (Furnaces)

SAKHAROV, V.M.

ANUFRIYEV, V.Ye.; AKSEL'ROD, L.S.; KARAGODIN, V.I.; SAKHAROV, V.M.; PUSHTORSKIY,
 Ye.I., redaktor; VINOKUROVA, Ye.B., redaktor; PETROVSKAYA, Ye.tekhniche-
 skiy redaktor.

[Hydraulic engineering for cities] Gorodskaia gidrotekhnika. Moskva, Izd-
vo Ministerstva kommunal'nogo khoziaistva RSFSR. 1954. 270 p.(MLRA 8:1)
       (Hydraulic engineering) (Municipal engineering)

SAKHAROV, V.M.; STECHKINA, N.A.

Experimental construction of reinforced concrete water drain collecting
mains using the compression method. Gor.khoz.Mosk. 28 no.3:22-25 Mr '54.
                                                    (MLRA 7:6)

    (Culverts)

SAKHAROV, V. M. Cand Tech Sci -- (diss) "Study of problems of construction by the method of punching drain collectors." Mos, 1957. 16 pp 20 cm (Min of Higher Education USSR. Mos Order of Labor Red Banner Construction Engineering Inst im V. V. Kuybyshev), 110 copies (KL, 24-57, 119)

-53-

MOSHCHEVITIN, G.T., inzh.; SAKHAROV, V.M., kand.tekhn.nauk

    Crack resistance of pressureless reinforced concrete pipes.
    Bet.i zhel.-bet. no.1:42-46 Ja '60.    (MIRA 13:5)
          (Pipe, Concrete--Testing)

SAKHAROV, V.M., kand.tekhn.nauk; TOKAR', M.I., inzh.

Sealing joints of large-diameter sewers. Vod. i san. tekh.
no.8:26-28  Ag '65.                                    (MIRA 18:12)

L 6471-66   EWT(m)/EPF(c)/ETC/EPF(n)-2/EWG(m)   WW/DM
ACCESSION NR:   AP5019814                          UR/0089/65/019/001/0046/0048
                                                   539.125.5:539.163.1

AUTHOR:  Kramer-Ageyev, Ye. A.; Markov, V. N.; Mashkovich, V. P.; Sakharov, V. K.;
Sakharov, V. M.

TITLE:  Neutron distribution in a straight cylindrical channel

SOURCE:  Atomnaya energiya, v. 19, no. 1, 1965, 46-48

TOPIC TAGS:  neutron distribution, nuclear reactor shielding, spectral distribution,
neutron spectrometry, fast neutron

ABSTRACT:  The authors investigated the energy and spatial distribution of the
neutrons in a straight cylindrical channel 14.4 cm in diameter and 150 cm long,
passing through a water shield.  The neutron source was a disc isotropic Po-α-Be
source stimulating point-like Po-α-Be source emitting $2 \times 10^7$ neut/sec.  The ex-
perimental setup was such that the source could be moved radially for each fixed
position of the detector, so that the spectrum of the fast neutrons could be de-
termined from a standard formula.  The spectral distribution of the fast neutrons
was measured with a single-crystal neutron spectrometer, and the intermediate
neutrons were counted with a paraffin-imbedded fast-neutron counter.  The results
show no deviations, within the limits of errors, from the spectrum of the Po-α-Be

Card 1/2

L 6471-66
ACCESSION NR:    AP5019814

source.  The spatial distribution of the fast neutrons agrees within 15% with the
calculations based on the beam analysis method.  A study of the dependence of the
fast-neutron flux on the source radius showed that with increasing distance from
the source to the detector (z), the source diameter which can be regarded as in-
finite, decreases.  The fast and intermediate neutrons exhibit approximately a
dependence on z ($\sim z^3$), with the fraction of the intermediate neutrons becoming
somewhat smaller with increasing z.  "The authors thank O. I. Leypunskiy for
valuable advice and a discussion."  Orig. art. has:  5 figures and 1 formula.

ASSOCIATION:  none

SUBMITTED:  15Jul64                    ENCL:    00                    SUB CODE:  NP

NR REF SOV:  002                       OTHER:   006

Card 2/2

GUBIN, F.F., doktor tekhn.nauk, prof.; KHESIN, G.L., kand.tekhn.nauk;
    SAKHAROV, V.N., inzh.

Using photoelastic coverings for studying the distribution of
stresses and deformations in concrete structures. Gidr.stroi.
34 no.11:25-27 N '63.                                      (MIRA 17:3)

KHESIN, G.L.; SAKHAROV, V.N.

Use of birefringent coatings for the enlargement of band gradients
in the testing of stresses.  Zav.lab.  30  no.3:356-358  '64.
(MIRA 17:4)

1. Moskovskiy inzhenerno-stroitel'nyy institut.

SAKHAROV, V.N.

AUTHOR:     LEYPUNSKIY,O.I., SAKHAROV,V.N., TERESHCHENKO,V.I.      PA - 2312
TITLE:      The Short-Period γ -Radiation of the Fission Products of U235 and
            Pu239.(Korotko-periodnoye γ -izlucheniye produktov deleniya
            U235 i Pu239, Russian).
PERIODICAL: Atomnaia Energiia, 1957, Vol 2, Nr 3, pp 278 - 279 (U.S.S.R.).
            Received: 4 / 1957                        Reviewed: 5 / 1957

ABSTRACT:   The present report gives the data found by the authors in 1953 on
            the spectral composition of the γ -radiation of the fission pro-
            ducts of U235 within the time interval of 1,5 - 5 sec after
            fissioning. Besides, the authors deal with some conclusions drawn
            as to the decrease of the γ -activity of the fission products of
            U235 and U239 within the same time interval. The hardness of
            γ-radiation was determined by absorption of a collimated radiation
            bundle in matter. Irradiation lasted about 1 second and measuring
            began about 0,6 sec after the end of the irradiation. The measuring
            device consisted of lead collimators, a lead- or aluminium ab-
            sorber, and of a steel counter SGS 400 in a glass balloon. The
            pulses of the counter were recorded on a film by means of a loop
            oscillograph.

            From the measuring results firstly the law of the attenuation of
            the bundle of γ -rays on the occasion of the passage through matter,
Card 1/3    and secondly the law of the decrease of γ -activity with time can

PA - 2312

The Short-Period $\gamma$-Radiation of the Fission Products of $U^{235}$ an: $Pu^{239}$.

be determined. The main results were obtained by means of a copper absorber; measuring by means of an aluminium absorber produces higher degrees of scattering on the occasion of the determination of the average energy, but confirm the results obtained. According to experimental data also a mixture of two or more kinds of $\gamma$-quanta may be concerned (i.e. 50% $E_\gamma$ = 1,2 MeV and 50% $E_\gamma$ = 2 MeV).

The average energy of $\gamma$-rays is constant or only little variable. A diagram containing a logarithmic abscissa and a logarithmic ordinate illustrates the law of the decrease of $U^{235}$ under consideration of the irradiation period, (i.e. the decrease of $\gamma$-activity after an instantaneous irradiation). This law is described satisfactorily within the time interval of from 1,25 to 17 sec after fission by a dependence of the type

$t_{sec}^{-0,8} \pm 6$ %.

Also the kinetics of the decrease of the $\gamma$-activity of the fission fragments of $Pu^{239}$ satisfy the same dependence:

$t_{sec}^{-0,8} \pm 8$ %, i.e. the kinetics of the decrease of $\gamma$-activity agree

Card 2/3

PA - 2312

The Short-Period $\gamma$-Radiation of the Fission Products of $U^{235}$ and $Pu^{239}$.

within the limit experimental accuracy.  (3 illustrations).

ASSOCIATION:    Not given.
PRESENTED BY:
SUBMITTED:      23.11.1956.
AVAILABLE:      Library of Congress.

Card 3/3

AUTHOR:        Sakharov, V.N.                       89-7-16/32

TITLE:         The Absorption of $\gamma$-Rays of $Au^{198}$, $Co^{60}$ and $Na^{24}$ by Water
(Pogloshcheniye vodoy $\gamma$-izlucheniya $Au^{198}$, $Co^{60}$ i $Na^{24}$)

PERIODICAL:   Atomnaya Energiya, 1957, Vol. 3, Nr 7, pp. 57-59 (USSR)

ABSTRACT:    The present paper experimentally studies the absorption of the
$\gamma$-radiation of a point source by water. The theoretical calcula-
tion of absorption under these conditions is difficult and has
hitherto not yet been carried out. The results of the experiment
are used for the calculation of the doses of the $\gamma$-radiation of a
source uniformly distributed in water. The point-shaped source of
the $\gamma$-rays was fixed under water. The dose of the $\gamma$-rays above
the surface of the water was calculated for different distances of
the surface of water from the source. Measurements were carried out
in a water vessel 2.5x1.5 m in dimensions. The coefficient $K(r)$ was
measured for every source at two fixed distances $r_0$ between the
point of measurement and the source. The results of these tests may
be compared with the data on the distribution of the doses of $\gamma$-rays
originating from a point-shaped source in a homogeneous medium.
Card 1/2       Such a comparison furnishes additional data concerning propagation

The Absorption of $\gamma$-Rays of $Au^{198}$, $Co^{60}$ and $Na^{24}$ by Water        89-7-16/32

of radiation in a homogeneous medium, especially on the direction of dispersed radiation. It is just for this comparison that the dependence $1/K(r)_{hom}$ is given in a diagram; this dependence was measured by the author in a homogeneous aqueous medium. The form of this dependence is in agreement with several earlier published data and differs from the theoretical calculations only with respect to the radiation of $Au^{198}$. The following can be said about the form of the weakening-curves $K(r)$ measured: At small values of $r$ the amount of $K(r)$ is smaller than one; this means that water not only does not weaken the radiation emanating from the source, but it even intensifies it. This is explained by the dispersion of the radiation on water. In the values of $r_0$ investigated here no differences $K(r)$ are observed for the measuring points lying in different heights above the source. After the passage of the surface of water through the point of measurement (i.e. when $r > r_0$) the dose power measured increases and the value of $K(r)$ approaches the value $K(r)_{hom}$ for an infinitely homogeneous aqueous medium. The dependence $k(r)$ is not homogeneous. There are 3 figures and 4 references, 2 of which are Slavic.

SUBMITTED:     January 17, 1957
AVAILABLE:     Library of Congress
Card 2/2       1. Gamma rays-Absorption-Theory   2. Gamma rays-Absorption-
                   Test results   3. Water-Absorptive properties
               4. Gamma rays-Absorption-Mathematical analysis

AUTHOR:          Sakharov, V.N.                                    69-7-18/32

TITLE:           A Counter With a Low Degree of Dependence of Sensitivity on the
                 Energy of γ-Quanta (Schetchik s maloy zavisimost'yu chuvstvitel'-
                 nosti ot energii γ-kvantov)

PERIODICAL:      Atomnaya Energiya, 1957, Vol. 3, Nr 7, pp. 61-63 (USSR)

ABSTRACT:        The sensitivity of the usual counters with a casing of aluminum,
                 copper or lead essentially depends on the energy of the radiation
                 $E_\gamma$, especially at $E_\gamma < 1$. A diagram illustrates the curves for the
                 dependence of the quotient (C/I) on $E_\gamma$ determined by the author for
                 a copper counter and for an aluminum counter. In this connection C
                 signifies the counting speed and I the intensity of radiation. The
                 sensitivity of the aluminum counter is highly dependent on $E_\gamma$ and
                 has a low minimum at $E_\gamma \sim 200$ KeV. In the copper counter the sensi-
                 tivity at first decreases by 20-30% with decreasing $E$ and then
                 rapidly increases at $E_\gamma < 250$ keV. The author attempted to obtain
                 a counter with better characteristics by a suitable selection of
                 the materials for the wall of the counter. Thereby the sensitivity
                 to the soft radiation shall be reduced and the sensitivity in the
Card 1/2         domain of the minimum shall be increased. The best results were ob-

A Counter With a Low Degree of Dependence of Sensitivity          89-7-18/32
on the Energy of $\gamma$ -Quanta

tained with a casing of a 0.12 mm thick tin foil which is immedi-
ately contiguous to the counter. Besides there is a 0.25 mm thick
lead foil which is separated from the tin by a 1-2 mm thick inter-
mediate layer of aluminum. The action of these different layers
is described in short. Such a counter is a convenient device for
the measurement of the intensity of radiations with a complex
spectrum. Still, results may perhaps be obtained with expressly
constructed counters with walls of heavy alloys. There are 2 fig-
ures, 1 table and 4 non-Slavic references.


SUBMITTED:     February 9, 1957

AVAILABLE:     Library of Congress

Card 2/2       1.   Gamma counters - Design

*SAKHAROV, V. N.*

AUTHORS:      Sakharov, V.N., Maloeyev, A.I.                89-10-14/36

TITLE:        The Total γ-Activity of U-235 Fission Products (Summarnaya γ-aktivnost' produktov deleniya U235)

PERIODICAL:   Atomnaya Energiya, 1957, Vol. 3, Nr 10, pp. 334-335 (USSR)

ABSTRACT:     The γ-activity of $U^{235}$ fission products is compared with the γ-activity of a simultaneously irradiated $Na^{23}$-target by means of a γ-counting tube which is equally sensitive within a wide γ-energy domain. Irradiation took place in the Russian $D_2O$ reactor. The order of magnitude $Q(t)$ (summated activity) can be represented as follows:

$$Q(t) = 23\ t^{-1.45}\ \frac{MeV}{sec.fission} \qquad \text{for } 1 < t < 10\ h$$

$$Q(t) = 0.76\ t^{-1.12}\ \frac{MeV}{sec.fission} \qquad \text{for } 10 < t < 1000\ h$$

There are 1 figure and 3 Slavic references

SUBMITTED:    May 16, 1957.

AVAILABLE:    Library of Congress

Card 1/1

ABSTRACT:          The decrease of the intensity of $Co^{60}$ $\gamma$-radiation in the air
                   above the earth in distances of from 1 to 800 m from the
                   source is experimentally determined. The $\gamma$-source and the
                   detector were in a height of $\sim 0.7$ m above ground. The sources
                   had an intensity of $\sim 500$ C, 10 C, 1 C, 10 mC, 1 mC. An
                   ionization chamber with "air-equivalent walls" and a special
                   tube counter (Ref 1) were used as $\gamma$-detector. The measuring
                   head consisted of three $\gamma$-detectors which were arranged per-
                   pendicular to one another. Owing to this arrangement the
                   sensitivity of the detectors was independent of intensity in
                   all directions up to 5 %. The experimentally found independence
                   of a coefficient k of the distance between source and detector
                   is shown by a graph. The coefficient k shows the rate at which
                   radiation intensity decreases as a result of interaction of
                   radiation with the air and the earth at $0^\circ$ C and 740 torr air
                   pressure. These data are compared with those obtained from
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Above the Earth

other publications. At distances of some tens of meters be-
tween the source and the detector radiation intensity in-
creases as a result of interaction between radiation and
matter. At large distances the measured intensities are lower
by the 1.7 to 1.8-fold than those calculated theoretically.
This confirms the opinion expressed by the authors of this
paper that the dose originating from a punctiform source
located on the earth must in great heights above the earth
be about  half of that of a source located at the same
distance in a completely homogeneous medium. The results
obtained may partly also be used for the purpose of deter-
mining radiation intensity above the surface of the earth if
the latter is contaminated by radioactive precipitations.
This task is performed by numerical integration by consi-
dering surface contamination to be the sum of point sources.
In the case of a certain uniformly distributed radioactive
contamination in a height of 1 m above the earth (covering
density $\sigma$ in Mev/cm$^2$.sec), intensity is calculated within
a compass having the radius R by means of the formula

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$J = A \cdot \sigma \left[ \text{Mev/cm}^2 \cdot \text{sec} \right]$. For a $\gamma$-contamination of the intensity
$J$ the A-values for distances of 25, 50, 100, 200, 500 m and
$\infty$ are tabulated. There are 1 figure, 1 table, and 5 references,
2 of which are Soviet.

SUBMITTED:     December 12, 1958

Card 3/3

21(7)
AUTHORS:

Sakharov, V. N., Kolesnikov-Svinarev, V. I., Nazarenko, V. A.,
Zabidarov, Ye. I.

TITLE:

The Angular Distribution of the Radiation of Au$^{198}$ Scattered
in Air Above Ground

PERIODICAL:

ABSTRACT:

From a ~ 10,000 c Au$^{198}$-source, which was located 1.5 m and
2.5 m above the ground, the total intensity of radiation in
distances of up to 600 m from the source as well as the angular
distribution of radiation in distances of 150, 250 and 400 mm
from the source was measured. The total intensity was measured
by means of a Geiger counter described in reference 1, in
which the multiple scattered γ-quanta with energies of between
120 and 410 kev were recorded with the same sensitivity. Radia-
tion with energies of between 60 and 120 kev were measured by
means of a somewhat more sensitive counter. γ-quanta with
energies below 50 kev were not recorded. Angular distribution
was measured by means of a detector consisting of 4 counters
connected in series, which was placed behind a thick lead disk
(diameter 21 cm) in such a manner that the centers of this
disk and of the detector were in one line with the center of
the source. The following measuring results are graphically

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The Angular Distribution of the Radiation of Au[198] Scattered in Air Above Ground

SOV/89-7-3-16/29

given: Dependence of the absorption coefficient and of the intensity of the non-scattered radiation on the distance between the source and the detector. Angular distribution of the scattered radiation. By placing source and detector near the ground, the radiation intensity at large distances becomes about twice as small as in homogeneous air. If the distance between source and the ground is increased, this difference becomes smaller and attains only the 1.5-fold and a height of about 25 m at the same distances as before. This is in agreement with the predictions made by reference 4. With respect to angular distribution it may be said that, from distances of 150 m onward, it practically undergoes no further change. The results obtained may be used in order more easily to calculate γ-shields. The problem was raised by O. I. Leypunskiy. V. A. Rogachkov, V. A. Shabashov and V. N. Rodionov assisted in working with the strong γ-preparation. There are 4 figures and 4 Soviet references.

SUBMITTED:    February 18, 1959

Card 2/2

2(5)

AUTHORS:      Sakharov, V. N., Kolesnikov-Svinarev, V. I., SOV/20-124-2-20/71
              Nazarenko, V. A., Zabidarov, Ye. I.

TITLE:        The Areal Distribution of Earth Ejected by Subterranean
              Explosions (Raspredeleniye na mestnosti grunta, vybrasyvayemogo
              pri podzemnykh vzryvakh)

PERIODICAL:   Doklady Akademii nauk SSSR, 1959, Vol 124, Nr 2, pp 314-317
              (USSR)

ABSTRACT:     The Institut khimicheskoy fiziki AN SSSR (Institute for
              Chemical Physics, AS USSR) collected experimental material
              concerning the distance of ejection of various portions of
              earth ejected by an explosion. The material is in many respects
              of some interest. When carrying out such experiments, it is
              necessary first to divide the area of ground before the
              explosion takes place within range of the crater to be formed
              into sections, and after the explosion the manner in which the
              fragments of earth are distributed over the said area must be
              determined. Various parts of the area were marked by means of
              radioactive indicators. Before the explosion 50-60 ampoules
              containing 1 millicurie $Sb^{124}$ were introduced into the soil

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The Areal Distribution of Earth
Ejected by Subterranean Explosions

through narrow cracks. 20 of such explosions were carried out
in this manner with from 10 kg to 10 t ammonite Nr 6 at
various depths both in loess and in loam. Further, 1000 tons of
ammonite Nr 6 were exploded in a depth of 40 m. The
characteristic results given by 2 diagrams permit the following
conclusions to be drawn: 1) The direction into which each
particle of earth is ejected leads, when traced back in the
opposite direction, through the center of the explosion. The
direction in which that part of the ground which is located
immediately above the charge is ejected is indefinite. 2) The
distance covered by each ejected part of the earth is
determined by its position with respect to the charge and
varies, with conditions otherwise being unchanged, within the
margin of ± 30%. 3) The dependence of the distance of flight
from the position of the respective part of the ground before
the explosion is shown by a nomogram. The smaller the angle
between the radius and the axis of the crater, the farther
will the earth be thrown. This dependence is commented upon in
detail by the authors. These regularities are qualitatively the
same with all explosions of charges of different strength. The
maximum distance covered by the ejected earth increases only

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slightly with an increase of the charge. With conditions
otherwise remaining unchanged this distance decreases with an
increase of the depth $w$ of the charge at the rate of $1/w^4$ .
All this holds for explosions in loess, and for powerful
explosions in loam, but not for weak explosions (10-100 kg) in
solid loams. In the latter case no permanent regularities were
found. Finally, the authors thank M. A. Sadovskiy,
Corresponding Member, AS USSR, for bringing up the problem,
and V. N. Rodionov for his collaboration in organizing the
above described work as well as for discussing the results.
V. A. Rogachkov and V. A. Shabashev are gratefully mentioned
as having rendered practical assistance.

ASSOCIATION:  Institut khimicheskoy fiziki Akademii nauk SSSR (Institute for
Chemical Physics of the Academy of Sciences, USSR)

PRESENTED:  September 18, 1958, by V. N. Kondrat'yev, Academician

SUBMITTED:  September 15, 1958

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SAKHAROV, V N

PHASE I BOOK EXPLOITATION                    SOV/5065

Leypunskiy, Ovsey Il'ich, Boris Vasil'yevich Novozhilov, and Vsevolod Nikolaye-
    vich Sakharov

Rasprostraneniye gamma-kvantov v veshchestve (Propagation of Gamma-Ray Quanta in
    Matter) Moscow, Fizmatgiz, 1960. 207 p. 6,000 copies printed.

Ed.: Margulis, U. Ya; Tech. Ed.: Murashova, N. Ya.

PURPOSE: This book is intended for physicists, engineers, and advanced students
    concerned with the applications of nuclear physics in industry, as well as with
    the applications of radio isotopes.

COVERAGE: The book discusses the theory of $Y$-quanta propagation and absorption
    in matter, taking into account the multiple scattering of quanta. It gives
    the quantitative characteristics (calculated and experimental) of $Y$-rays for
    the various representative cases of radiation propagation: propagation in an
    infinite medium, passage through a layer of finite thickness, reflection from
    the boundary surface (albedo), etc. Data are given on the attenuation, and
    the spectral and angular distribution of $Y$-radiation.

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Propagation of Gamma-Ray Quanta (Cont.)                    SOV/5065

The physical principles of protection against $\gamma$-radiation when working with powerful sources of $\gamma$-radiation (nuclear reactors, radioactive isotopes, etc.), and a sufficiently complete and systematic summary of the results obtained to date are presented. Since the book is intended for those engaged in experimental research in the field, there is only a general description of methods for the theoretical solution of problems in the multiple scattering of quanta. Solutions are not given to problems of quanta propagation for the case of complex source geometry, nor do the authors deal with protection problems associated with the determination of the minimum protective weight to obtain a given dose attenuation. Material for the book has been drawn from extensive periodical sources published in recent years on $\gamma$-radiation propagation in matter. The authors thank L. R. Kimel', U. Ya. Margulis, N. G. Gusev, S. G. Tsypin, and P. Ye. Stepanov. There are 69 references: 21 Soviet, 43 English, 4 French, and 1 German.

TABLE OF CONTENTS:

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S/799/62/000/002/006/011

AUTHORS:  Knyazev, V. D., Sakharov, V. N.

TITLE:     The magnetic-tape deck of the computing machine M-2.

SOURCE:   Akademiya nauk SSSR. Institut elektronnykh upravlyayushchikh mashin.
          Tsifrovaya tekhnika i vychislitel'nyye ustraystva. no. 2. 1962, 88-97.

TEXT:      The tape deck (TD) provides the tape drive past the recording and play-
back heads as determined by the switch unit. A general-view photograph and a block
scheme of the TD are adduced. The TD consists of the following parts: The tape
drive, the tape-feed and -take-up system with two coils; the recording and playback
circuitry; the tape-drive control circuitry; the magnetic recording, playback, and
erase heads; the control board; and the power supplies. The coils hold 500 m of
magnetic tape (Type-4) 18.75 mm wide. The tape contains 4 information and 2
service tracks. At the drive speed of 2 m/sec, the recording density amount to
3.75 pulses/mm of tape length. The recording or playback time of a single zone
(512 34-digit binary numbers) is then 0.6 sec. Start and stop time: 6 msec. The
description of the mechanism of the TD is illustrated with an isometric exploded
drawing of the kinematic arrangement of the TD. A schematic detail diagram illus-
trates the operation of the pressure rollers. The take-up and feed control is

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The magnetic-tape deck of the computing.....          S/799/62/000/002/006/011

described and the switch arrangement is illustrated with a schematic cross-
sectional drawing. The bulk-tape eraser head and the recording and playback heads
are described. The tape-drive controls, which contain 2 independent parts, namely,
the start- and stop-solenoid control and the drive-reversal control network, are
detailed. The first of these is illustrated in a full-scale schematic diagram. The
network diagram of the playback amplifier, which is a 4-cascade rheostat amplifier,
is shown. The recording of the information is performed on a previously saturation-
magnetized tape. Only the "1" are recorded on the magnetic tape. An absence of
recording signifies the signal "0". Advantage: Simpler equipment; Disadvantage:
Higher magnetic-tape noise level. Two types of control are provided: Automatic
and manual. Practical hints concerning the setting-up and maintenance of TD are
set forth. There are 7 figures (the text lists up to Fig. 9, presumably erroneously).

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ACCESSION NR: AP4019984                          s/0020/64/154/006/1441/1443

AUTHOR: Otroshchenko, V. A.; Sakharov, V. N.

TITLE: Local irradiation of cell cytoplasm at various mitotic phases by ultra-
violet microrays.

SOURCE: AN SSSR. Doklady*, v. 154, no. 6, 1964, 1441-1443

TOPIC TAGS: cytoplasm irradiation, cell mitosis, ultraviolet light, ultraviolet
microlight, mitotic stage, radiation cell injury, prophase, radiation vacuole,
radiation sensitivity, magnesium flash

ABSTRACT: Based on earlier U.S. studies, small terminal cell particles of the
staminate fiber of Tradescantia paludosa were irradiated, excluding the nucleus.
Experimental conditions, such as the medium, observation chamber, irradiation
source (magnesium flash), and equipment are described. Prior normal rates had
been established for the various phases. The almost monochromatic   280-285
millimicrous light was actively absorbed by proteins and to a certain extent by
nucleic acids. Reliability was  satisfactory for microlight of various diameters

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ACCESSION NR: AP4019984 .

to 1.5 microus.  A rather broad light, about 40  $^2$ , gave best results.  About
3-5% of the cell volume was irradiated for 10-540 seconds.  Irradiation regularly
caused the local appearance of an unusual, large, strongly "boiling" vacuole,
more pronounced with increasing doses, while the cytoplasm remained relatively
quiet.  This vacuole dissolved, with the rate of dissolution directly depending
upon the u.v. dose.  While irradiation did not inhibit the late mitotic phases,
a 20 seconds u.v. dose at the border of the early and middle prophase inhibited
cell division, with nucleus reconstruction lasting several hours. . Influence in
the early prophase depended upon the dose.  Forms of abnormal cell division are
reported.  This stage was most sensitive to factors depressing mitosis with the
middle of the last prophase stage its critical point, i.e. a threshold past which
inhibition was either complete or non-existant.  The data agrees with that found
for full X-ray irradiation of other cells.  "The authors wish to thank
N. L. Delona for suggesting the object, the method of observation and for the
attention given to this work.  The technical part of the work was done by the
technician V. A. Rogachkov."  Orig. art. has:  1 figure.

Card  2/3

ACCESSION NR: AP4019984

ASSOCIATION: Institut atomnoy energii im. I. V. Kurchatov, (Institute of Atomic Energy); Institut khimicheskoy fiziki AN SSSR (Institute of Physical Chemistry, AN SSSR)

SUBMITTED: 25Mar63          DATE ACQ: 23Mar64        ENCL: 00

SUB CODE: AM, BC            NO REF SOV: 001           OTHER: 007

Card   3/3

WRITE BELOW THIS LINE

SAKHAROV, V.N.; VORONKOVA, L.N.

Effect of nucleolar inactivation on the preparation
of cell division.  TSitologiia 7 no.6:729-731  N-D '65.
                                          (MIRA 19:1)

1. Institut khimicheskoy fiziki AN SSSR, Moskva.  Submitted
March 19, 1965.

SAKHAROV, V.N., Cand Med Sci -- (diss) "Bandaging
of the ixx pulmonary artery in chronic suppuration
and in cancer of the lung." Gor'kiy, 1958, 12 pp
(XX Gor'kiy State Med Inst im S.M. Kirov) 200 copies
(KL, 29-58, 137)

- 128 -

SAKHAROV, V.N. (Gor'kiy, Naberezhnaya Zhdanova, 17, kv.18)

Pulmonary artery ligation in chronic pulmonary suppuration.
Nov.khir.arkh. no.1:12-17 Ja-F '59. (MIRA 12:6)

1. Kafedra gospital'noy khirurgii (zav. - prof. B.A.Korolev)
Gor'kovskogo meditsinskogo instituta.
(LUNGS--ABSCESS) (PULMONARY ARTERY--LIGATURE)

SAKHAROV, V. N.

EXCERPTA MEDICA Sec 16 Vol 7/10 Cancer October 59

4353.   The outcome of lung vessel ligation in chronic suppuration and cancer of the lung (Russian text) SAHAROV V. N. *Vestn. Khir.* 1959, 82/1 (101–106)

Forty-one in-patients with chronic lung suppuration, cancer, and tb were treated by ligation of pulmonary vessels. A more than 8-year follow-up of 23 patients operated upon for chronic suppuration and tb proved this intervention to be a rational and adequate one in cases where radical surgery is contraindicated. The best long-term results were noticed in chronic indurative pneumonia and in suppuration of a polycystic lung. Depending on indications ligation of lobe vessels alone may be sufficient. In haemorrhage the ligation of the pulmonary artery is indicated when all other means fail and a radical intervention is not warranted in poor risk patients. But stoppage of blood loss is not in all patients obtainable. This intervention

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requires then a supplementary treatment with intrabronchial administration of antibiotics. In cancer cases (8 patients) the ligation of lung vessels is but rarely followed by some improvement of their condition. Operation in comparison with thoracotomy (10 instances) does not prolong the life of the patient. Ligation of the main or a lobar lung artery may lead to necrosis and decomposition of large tumours followed by extensive inflammatory infiltration and a dramatic deterioration of the patient's condition. This fatal complication was encountered 3 times.

SAKHAROV, V. N.

Cand Med Sci - (diss) "Results of tying of the pulmonary artery
in pulmonary disorders." Gor'kiy, 1961.  10 pp including cover;
(Gor'kiy State Med Inst imeni S. M. Kirov); 250 copies;price
not given; (KL, 6-61 sup,240)

SAKHAROV, V.N.; OTROSHCHENKO, V.A.; VORONKOVA, L.N.

Comparison of the effectiveness of mitosis suppression following separate irradiation of nuclear and cytoplasmic structures. Radiobiolog.ia 5 no.1:93-96 '65.
(MIRA 18:3)

1. Institut khimicheskoy fiziki AN SSSR i Institut atomnoy energii imeni Kurchatova, Moskva.

SAKHAROV, V.N.; VORONKOVA, L.N.

Ultraviolet microray irradiation of the nucleus and cytoplasm
of animal tissue culture cells in different phases of the cell
cycle. Genetika no.1:161-165  '65.                    (MIRA 18:10)

1. Institut khimicheskoy fiziki AN SSSR, Moskva.

ANTOSHIN, Ye.V.

25(5)   PHASE I BOOK EXPLOITATION   SOV/1361

p 3

Spravochnik mekhanika mashinostroitel'nogo zavoda v dvukh tomakh.
t. 2: Tekhnologiya remonta (Handbook for Mechanics of Machine-building
Plants in Two Volumes. Vol. 2: Technology of Repair Operations) Moscow,
Mashgiz, 1958. v.1, 1059 p. 40,000 copies printed.

Resp. Ed.: Yu.S. Borisov, Engineer; Ed.: K.G. Tsaplin, Engineer; Tech. Ed.:
T.P. Sokolova; Eds. of Set: Yu.S. Borisov, Engineer, A.P. Vladimirskiy,
Doctor of Technical Sciences, and R.A. Noskin, Candidate of Technical Sciences;
Managing Ed. for Reference Literature (Mashgiz): V.I. Krylov, Engineer.

PURPOSE: This handbook is intended for personnel responsible for repair and main-
tenance operations in a machinery-manufacturing plant.

COVERAGE: The handbook contains information pertinent to the organization of
repair and maintenance operations, design-preparation of maintenance work, and
economics of maintenance. Information on scientific research organizations and
plants participating in preparation of this volume is included in the coverage
of Volume 1 (SOV/1359). There are no references. Basic topics covered include
reconditioning and making of parts in maintenance operations; metal-working,
soldering, and pipe-fitting; finishing operations involved in maintenance work;
stocking parts for precision; basic bench and assembly work; maintenance of
power equipment; and maintenance of foundations.

Card 24/26

BORISOV, Yu. S.; SAKHAROV, V. P.

Mechanizing the machining of pinion teeth. Mashinostroitel'
no.12:13-16 D '62.                                     (MIRA 16:1)

(Gear-cutting machines)

BORISOV, Yu.S.; SAKHAROV, V.P.

      Devices for cutting gear racks in repair shops. Mashinostroitel'
      no.9:13-15 S '63.                 (MIRA 16:10)

        (Gear-cutting machines)

SAKHAROV, V.S., inzh.; YAMPOL'SKIY, M.I., inzh.

Optima types of refractories for the laying of all-basic open-
hearth furnaces. Met. i gornorud. prom. no.3:40-42 My-Je
'62.                                                     (MIRA 15:9)
(Refractory materials)
(Open-hearth furnaces—Design and construction)